

5.2.2 TRAVELLING IRRIGATORS



Rotary Boom Irrigator

A very efficient, heavy duty Rotary Boom Low Pressure Travelling Irrigator



Specifications

| | |
|-----------------------------|---|
| Boom Length: | 77m |
| Wetted Width: | to 110m |
| Lane Spacings: | 100m to 104m |
| Flow Range: | 80 to 190m ³ /hr |
| Operating Pressure | 280 kpa |
| Wheel Spacings: | 3.8m |
| Travel Speeds: | 8 travel speeds from 10 to 40 m/hour |
| Area Covered: | 4.0 ha to 6.0 ha |
| Average Run Length: | 400m - 600m |
| Suitable For: | Flat to Moderately Uneven |
| Shifting Times | 3/4 - 1 hour per machine |
| Water quality requirements: | Handles all Types |
| Typical mainline Class | PN6 |
| Application rate | 10 to 40 mm/hour |

Based on 6 ha in 23 hours the gross application can be from 36.6 mm up to 72.8 mm

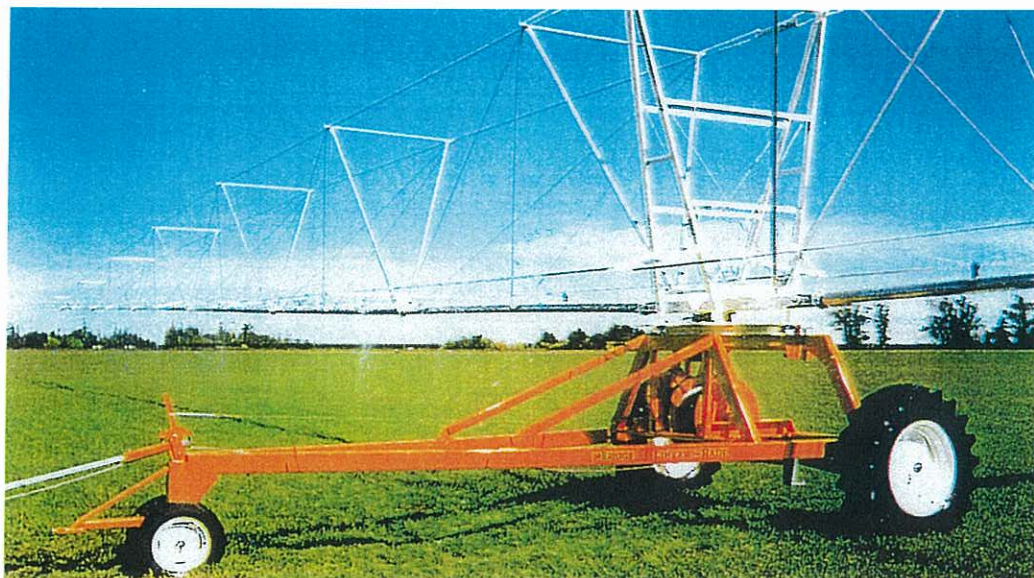
The Roto Rainer irrigator can be set to run in any chosen direction.

Pulling up to 300 metre length of hose; with central hydrant outlets, a 600 metre run can be achieved.

When operating in strong windy conditions, coverage is still very good because the water is carried in the boom almost to the end of the watering circle. Because the boom rotates a very efficient watering pattern is achieved.

Linear Boom Irrigator

A very efficient heavy duty Turbine Drive Low Pressure Travelling Irrigator



Specifications:

| | |
|---------------------|------------------------------|
| Boom Length: | 77m or 90m |
| Wetted Width: | to 110m |
| Lane Spacings: | 80m to 104m |
| Flow Range: | 100 to 190m ³ /hr |
| Operating Pressure: | 210 to 340 k.p.a. |
| Wheel Spacings: | 3.8m |
| Travel Speeds: | Variable - 20 to 80 m/hour |
| Area Covered: | 4.0 ha to 6.0 ha |
| Application rate | 20 - 65 mm/hr |

The Briggs Turbine Drive Linear Rain irrigator is driven by a full flow turbine coupled through a clutch to a four speed gearbox, being chain driven onto the side of the wire rope winch drum.

The turbine rotates at speeds of 300 to 500 rpm. It provides all the torque necessary to winch this irrigator along pulling up to 300 metres of 125 mm diameter layflat irrigation hose. A flow of 100m³/hr (367 gpm) is all that is required to obtain the maximum torque output. For higher flow rates the excess water is by passed through a separate metered pipeline.

A clutch within the gearbox automatically disengages at the start of the run, allowing the wire rope to be pulled out. At the conclusion of the run, a change over type valve will by pass the turbine to allow the irrigator to sit stationary at the end of the run. An optional extra time delay shut off valve can also be fitted to allow the ends of the runs to be fully irrigated.

Centre Pivot



Specifications

| | |
|--------------------|-------------------------------|
| Boom length | 200 - 700 metres |
| Flow range | 100 to 324 m ³ /hr |
| Operating pressure | 200 - 400 Kpa |
| Application rate | 10 to 65 mm/hr |

Rainer Irrigation Ltd is importing a Centre Pivot to the New Zealand market. This machine has been developed in South Africa where it operates under harsh conditions.

The manufacturing company has been in business for over 100 years, and produces 250 Centre Pivots a year and is the largest pivot manufacturer in South Africa.

Agrico began importing Centre Pivots from America initially, manufacturing span pipes, truss rods, drive tubes.

These machines are now fully manufactured in South Africa with many improvements to the design included.

A centre pivot can be a very profitable investment, if it is well designed. The designer has to balance the capital cost against the energy cost, to arrive at the best solution.

While we also offer conventional wheeled mobile pivots, our three point mobile option saves a lot of labour if a suitable tractor is available.

The unusually deep trusses of the Briggs Agrico pivots enable spans of over 60m to be achieved. This is much simpler and more cost effective, as fewer drive towers are required. Fewer wheel tracks reduce crop losses. Maintenance and the time required to tow a pivot are also reduced.

Machines with longer tower legs that give extra clearance, are available. Combined with drop pipes they are used in citrus and other orchards, saving substantial costs and maintenance, compared to drip and micro irrigation.

Centre Pivots offer:

- ¥ Coverage from 2 to 200 Hectares
- ¥ Fixed or Towable Centres
- ¥ Wide choice of sprinkler packages
- ¥ Design pressure to suit application
- ¥ Centre drives that save power
- ¥ High-Clearance for Trees.

Rainer Irrigation Ltd provides irrigation designs and installation with our customary back up service.

Our Irrigator product range includes:

- Briggs Roto Rainer
- Briggs Linear Rain
- Briggs Agrico Centre Pivot
- Briggs Agrico Lateral
- Ocmis Hard Hose
- Souther Cross Gun

Also Available:

- Trough Systems
- Effluent System
- Sprinkler & K Line Systems
- Nutri - Dose
- Dosatron
- Irrigation & Domestic Pumps
- PVC Pipe
- Polyethylene Pipe
- RX Plastic Fittings
- Wash down Hoses
- Pump & Flow Testing

Email: rainer@ashburton.co.nz

| | |
|-----------------------|---------------|
| Phone | (03) 308 1593 |
| Fax | (03) 308 7320 |
| Sales & Installation: | 025 344 750 |
| | 025 356 335 |
| | 025 285 6050 |
| Service: | 023 369 500 |
| Pump Repairs: | 025 265 2790 |
| Mainline Repairs: | 025 344 752 |

Manufactured in NEW ZEALAND by:

**Rainer
Irrigation Ltd.**

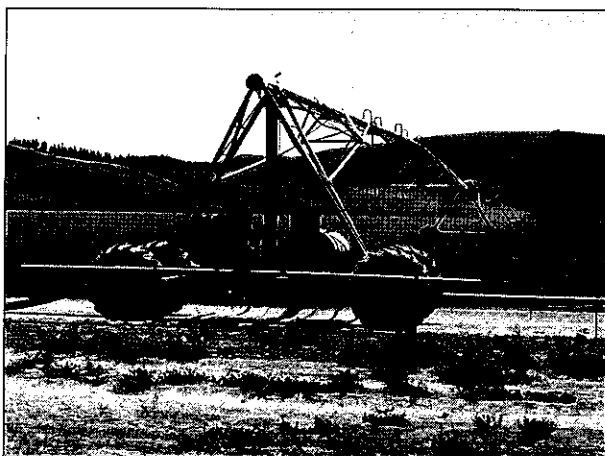
Comer Watson & Robinson Streets,
Ashburton, New Zealand.
Phone(03) 308 1593
Fax (03) 308 7320

December 2001

T-L Centre pivots and Linear Irrigators

Special Features/Benefits

- Unique hydrostatic drive.
- Continuous movement (every tower moves continuously).
- Simplicity and safety of hydraulics.
- Manual and electronic operation.
- T-L hydraulic scissor jacks for towable systems.
- T-L planetary gear drive.
- Electric or diesel drive for hydraulic pump.
- Extended gear life through continuous movement.
- Improved application uniformity.
- No wasted horsepower, power to run hydraulic pump varies directly with rotation or run time.



Contact Details

T-L Pivot & Linear N.Z. Ltd
P.O. Box 2937
Christchurch
Phone 0800 8569 587
Fax 03 341 0971

Irrigator Specifications

System flow rate range

- 19 l/s (1-span linear) up to >100 l/s

Operating pressures

- 30-55 psi

Area covered

- 4.3ha/run (1-span linear) to >165ha (centre pivots).

Run lengths

- 1-span linear 400m,
- 4 wheel cart linear 250-300m depending on machine length, and flow rate.

Lane spacings

- N/A

Travel speeds

- 0.25m/min – 2.5m/min

Sprinkler wetted widths

- 9m – 17m (depending on sprinkler type).

Application depth range

- 2-5mm up to 40-45mm

Application rates

- <30mm/hr for linears,
- up to 75-80mm/hr on outside of centre pivots.
- Depends on flow rate

Land use options

- Linear <2% side slope, centre pivots <20% slope.

Range of topography system is suitable for

- linear flat, centre pivots undulating

Shifting times

- Linear hose shift 10-15min, towable centre pivot 1 hour water-water.

Water quality requirements

- Clean debris free, chemically "neutral"

Typical mainline class

- B

December 2001